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Worldwide Report

NUCLEAR DEVELOPMENT AND PROLIFERATION

(FOUO 5/80)

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CONTENTS

CONTENTS (Continued)

JAPAN

'MAINICHI' DEMANDS END TO ALL NUCLEAR TESTS

OW270941 Tokyo MAINICHI SHIMBUN in Japanese 24 Mar 80 Morning Edition p 3 OW

[Editorial: "Radioactive Sickness From Nevada Nuclear Tests"]

[Excerpts] In this age of rapid change we tend to forget about the past while thinking of the future. Only recently a U.S. presidential special committee admitted officially for the first time that many people had fallen victim to nuclear tests in Nevada. The tests in question were conducted from 1951 to 1962, or two to three decades ago. This development makes us keenly aware of the importance of the following two facts: First, it took two to three decades to clearly determine that the diseases were caused by radioactivity. We are apt to take a short view of things, not only on the radioactivity issue but also with regard to science and technology in general. Second, nuclear weapons are still being tested. Residues of the "ash of death" emitted 20 or 30 years ago still certainly remain in the soil and water no matter how insignificant the amount. Nuclear tests by nuclear powers should be stopped at once because it will be too late if we discover their consequences much later.

CSO: 5100

JAPAN

NUCLEAR WASTE TO BE DUMPED IN PACIFIC NEXT SPRING

OW300534 Tokyo ASAHI SHIMBUN in Japanese 18 Mar 80 Morning Edition p 3 OW--

[Text] Drums of low-count radiation waste that are being piled up in the compounds of the nuclear power plants will be dumped into 6,000 meter-deep sea beds in the Pacific next spring on an experimental basis. This was disclosed by the Science and Technology Agency during the 27 March session of the lower house Special Committee on Development of Science and Technology. According to the plan, 5,000 to 10,000 barrels of nuclear waste--a total of 500 kiloCuries in radation terms--will be dumped.

For the time being, nuclear waste eligible for undersea dumping will be such low-count radioactive waste as purified waste water drained from the reactors, and radioactive clothing, paper and other materials. These waste products will be packed in barrels with cement after they are burned. They are now stored in ground facilities. Three places, including the waters about 900 kilometers southeast of Tokyo Bay, have been selected as possible dumping sites.

During the committee session, the question was raised if it is possible to recover the dumped objects when something goes wrong with them. Science and Technology Agency Director General Nagata replied: "Following a safety examination, the Atomic Energy Safety Commission has concluded that even if all the drums should disintegrate, the outcome would be negligible." Thus he indicated that the dumping would be permanent, with no possibility for recovery. However, at the time of dumping, underwater cameras will be used to observe the effect of dumping 10 to 20 barrels. For 3 years thereafter, from 1981, through 1983, oceanic environmental tests will be conducted and, depending on the results of these tests, a full-scale dumping of a several thousand drums totalling 10,000 Curries in radiation terms will be carried out each year.

CSO: 5100

JAPAN

'DAILY YOMIURI' NOTES THREE-MILE ISLAND MISHAP ANNIVERSARY

OW310945 Tokyo THE DAILY YOMIURI in English 28 Mar 80 p 2 OW

[Editorial: "Aftermath of Three-Mile"]

[Text] A year has passed since the Three-Mile Island atomic power accident in the U.S. Since then, the Japanese Government has thoroughly checked the safety of all atomic power plants in Japan.

The government's Atomic Power Safety Commission reported 52 matters that needed to be checked to ensure the safety of A-power plants in this country. But many problems remain unsolved. Chiefly, there should be a reexamination of safety standards. Concrete measures are needed to prevent nuclear accidents and to ensure the safety of workers at atomic power stations.

It is also necessary to reexamine the policy of locating atomic power plants in this country. It has taken eight years and one month on the average to open the existing atomic powers plants, counting from the time the government first approached local residents to obtain their approval for the construction of atomic power plants in their districts. At present, the average time it takes to open a new A-power plant is much longer at 15 years and six months.

In the past 10 years the number of atomic power reactors in Japan has tripled, but the number of prefectures where the plants are located has only increased from seven to 10. The Three-Mile Island accident in the U.S. has increased the difficulty of finding new sites for A-power plants in Japan.

The problem must be solved to ensure sufficient energy sources for Japan. We make two suggestions in this respect.

Firstly, we suggest that the government work out an acceptable arrangement to obtain the approval of local residents for the establishment of N-power plants.

Debate the Problem

It is good that the Three-Mile accident led to lively debates on the safety of atomic power stations. The government should set up a system of thoroughly discussing the safety aspects with local residents.

The Atomic Energy Safety Commission sponsored a debate last autumn, participated in by experts and scholars who discussed the problem from different standpoints. The meeting was certainly beneficial. But the government has not held such a meeting since then.

It is also necessary to hear the views of local residents and proper legislation should be passed for this purpose.

Secondly, we urge the government to take necessary measures to improve the welfare of the residents of the districts where atomic power plants are located.

Benefit for Citizens

Under three laws established in 1974, the central government grants subsidies to local governments to build roads, construct gymnasiums and other public facilities for local residents. Here is an opportunity for the central government to increase benefits to every citizen. Atomic power stations generate considerable heat. Why not use the heat to warm the houses of local residents and melt the snow on the roads?

Would it not also be a good idea to reduce the electricity rates for residents in areas where atomic power stations are located?

Another idea is to formulate comprehensive measures to promote the development of various industries in districts where atomic power plants are located. The government should set up a system under which various ministries and agencies concerned can work together to attain these aims.

CSO: 5100

JAPAN

BRIEFS

URANIUM ENRICHMENT PROJECT--At a Miyazaki prefectural assembly session on 14 March, it was disclosed that Asahi Chemical Industry Company is planning to build an uranium enrichment plant at Hyuga city in the prefecture. Under this plan, the company will this year begin a 5-year test-producing program to experiment on the unique "ion exchange" method, developed by the company's Kawasaki Research Institute since 1972 in enriching uranium. Followed by a project to build a full-scale enrichment plant. The company has decided to begin this 5-year 2-ton annual swu [separative work unit] enrichment experiment, based on its conclusion that the new method is less expensive than two conventional methods, the centrifugal separation and the gaseous diffusion process. In view of the need to encourage domestic nuclear fuel production, the Science and Technology Agency and the Agency of Natural Resources and Energy will disburse two-thirds of the total cost estimated at 12 billion yen as a subsidy for the 5-year experiment program. [Tokyo ASAHI SHIMBUN in Japanese 15 Mar 80 Morning Edition p 8 OW]

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SAUDI ARABIA

SHAYKH YAMANI URGES REMOVAL OF CONSTRAINTS ON NUCLEAR POWER

LD261031 London THE TIMES in English 26 Mar 80 p 22 LD

[Article by Patricia Tisdall: "Institute of Directors Annual Convention; Yamani Call for Unifed Energy Policy"]

[Excerpt] A six-point strategy for an international energy programme which could "move our world away from the edge of an abyss" was outlined yesterday by Shaykh Ahmad Zaki Yamani, the Saudi Arabian minister for petroleum and mineral resources. Shaykh Yamani, who was a guest speaker at the institute of directors annual convention in London, criticized Western business and political leaders for hesitation and indecision about finding an alternative energy source. In a clear reference to nuclear power, he urged the removal of environmental constraints. The danger of energy shortfalls arising from dwindling oil stocks was, he implied, less that the hazards associated with the removal or at least the mitigation of constrains on the development of nuclear fuel. "Although such a move can be a bit hazardous, it does not presage a disaster, as commonly claimed. Impending energy shortfalls on the other hand would bring about a world catastrophe which could undermine world civilization", he said. "Decisions must be taken now by the leading industrialized countries aimed at the intensification of a host of energy sources which occur in abundance and whose prospects look quite promising."

In addition to developing energy sources other than oil, the minister's programme involved greater energy conservation by industrial countries and technical and financial help to develop resources in energy-deprived areas. Although energy sources such as coal and hydroelectricity could be used by developing countries, most have opted for oil. "The question then arises as to whether the industrialized countries, by overconsuming world oil supplies, have already deprived the developing nations of their fair share," he said.

He blamed world media for not contributing constructively towards informing the public of the true situation. "The salient features of energy should be stressed as a whole, with special reference to the relative scarcity of oil; the urgent need to limit its use to sectors where existing technology limits the use of an alternative, and the necessity to accelerate the efficiency of oil use even in these sectors", he said.

Unless we put these proposals into practice, the world must prepare to face "recurrent events similar to those that came about in the course of 1979, but with increasingly severe consequences with each repetition". Referring to events in Iran he said that "the elements of erratic behavior and unpredictable actions in this world have, over the oast few years, proliferated to such an extent as to render the prevailing problems possibly insoluble. These elements pose such a grave problem that they could probably jeopardize the structure of the world energy trade".

FRANCE

COMMENTARY ON U.S. NON-PROLIFERATION ACT, RESTRICTIONS, POLICY

Paris COMMENTAIRE in French Spring 80 pp 91-104

[Article by Francois Bujon de L'Estang: "The Non-Proliferation of Nuclear Weapons"]

[Excerpt] The divergent attitudes caused by the double shock from Brazil and from Pakistan can be schematically arranged in three types.

The first is that of the maximalist school, illustrated in the front rank by the United States and the great Anglo-Saxon producers of natural uranium (Canada, Australia). Their attitude is that of putting an embargo on the export of sensitive equipment and technology, of refusing all exports destined for countries which have not accepted the "Fullscope Safeguard," of demanding a right to follow and a right of consent prior to any retreatment or enrichment of more than 20% of the fissionable materials exported and of renegotiating the whole of the agreements or contracts concluded prior to the definition of this policy for the purpose of putting them retroactively in harmony with the unilaterally established principles. Canada, the first, took this road the day following the Indian explosion. The United States was to pick up the torch by giving a very broad development to that attitude.

A number of reflections and labors engaged in during the last months of the Republican Administration and of which the Ford-Mitre* report constitutes the most significant example, was, in fact, to lead to a presentation by President Carter in a speech dated 7 April, 1977, of a very strict non-proliferation policy which picks up the ideas already voiced by President Ford during the election campaign and amplifies them. The American policy, as announced by Mr Carter, rests on the fear that the uranium-plutonium cycle may cause proliferation if it develops too quickly and in an uncontrolled way. "The plutonium economy" is designated as the enemy, and its premature development must be avoided at all costs. "From our own experience," declares the President of the United States, "we have concluded that a viable and profitable program of nuclear energy can be maintained without either retreating or recycling plutonium." On this fundamental assertion, which since that time none of the great industrial countries allied to the United States has shared, nor has the Soviet Union, a policy has been based that is completely directed by the desire to struggle not only against dissemination, but against the development of plutonium technologies. Mr. Carter then announced at the same time that he was expressing the desire to see an

*Nuclear Power: Issues and Choices: Report of the Nuclear Energy Policy Study Group, Sponsored by the Ford Foundation, administered by the Mitre Corporation, Ballinger Publishing Co., Cambridge, Massachusetts, 1977.

imitation of that example, a moratorium of undetermined duration on retreatment and on the commercial development of supergenerators in the United States, accompanied by an embargo on sensitive exports and by a speed-up in the effort to research the "exotic" cycles which are supposed to be non-proliferating, like the uranium-thorium cycles; he further proposed the idea of launching an international study to evaluate the fuel cycle, which would be accompanied by a pause for reflection and by a moratorium on the development of the plutonium cycle.

The legislative result of this policy was to be the Nuclear Non-Proliferation Act, promulgated on 10 March, 1978. A veritable legislative monster, the result of a full year of dealing, compromising and out-bidding in Congress itself, the Non-Proliferation Act aimed not only at putting the London directives into practice, but at making into a juridical instrument the measures advocated by President Carter, including placing the plutonium economy on the index. It therefore marks a break in relation to the concerted approach which was that of the London directives: now the United States would define and put its non-proliferation policy into practice unilaterally.

This policy comes forth as a battery of draconian measures: an embargo against every non-militarily nuclear state which does not apply the "Full-scope Safeguard" within 24 months; an embargo against every militarily non-nuclear state developing a technology considered by the United States to be a proliferating technology, and against every state (even military nuclear), contributing to the development of such technology in a non-nuclear state; the rule of prior consent to enriching more than 20% and to the retreatment of materials supplied by the United States; an obligation made to the Executive Branch to renegotiate all the agreements concluded by the United States for the purpose of putting them in harmony with the rules of the Non-Proliferation Act and a threat of a nuclear embargo against every state which may not have accepted making such a renegotiation 2 years after the act goes into effect. To those states which, on the other hand, would agree to accommodate themselves to those various rules, the United States proposes guaranteed supplies of enriched uranium and storage of their irradiated fuel on American territory. They also advocate the creation of international centers for recycling the fuel, and of an "International Authority for Recycling Fuel" with the duty of overseeing the guaranteed supply.

Under the strict and meddling surveillance of Congress, American diplomacy began to put the policy thus defined into effect on all horizons. On the instigation of the United States, an international evaluation of the nuclear fuel cycle, baptized INFCE [International Nuclear Fuel Cycle Evaluation] was launched in the autumn of 1977 and should complete its work in February, 1980; these labors by experts, of which it has been understood at the end of long negotiations that they are not accompanied by any moratorium, were to evaluate the diverse technologies in regard to non-proliferation and were to suggest technical measures capable of reinforcing resistance to proliferation of the technologies in use; 50 countries will have participated in that study whose logistics have been supplied by the AIEA [expansion unknown]. Parallel to this effort to generate second thoughts, the United States has made an

effort with varying results to carry out the renegotiation of their agreements on cooperation, to apply pressure on certain of the more sensitive countries that are not signatories of the TNP [Non-Proliferation Treaty], specifically India, Pakistan, Brazil, Argentina, South Africa and Spain, to obtain an acceptance of the "Fullscope Safeguard" from those countries and to begin anew another concerted effort with the other suppliers to define the restrictive measures destined to complete the London directive in various domains. All the means the United States disposes of have been put into service of this effort: threats of embargoes on the suppliers of enriched uranium, a parsimonious granting of authorizations for transfer of fuel of American origin (called "MB 10's"), pure and simple political pressure. In all cases an absolute priority is given to the objective of non-proliferation with regard to energy data.

At the opposite end of the scale from this American maximalism, the non-proliferation minimalists practice the religion of Article IV of the TNP. A great number of states, irritated by American revisionism, choose to make a closer study of the texts and to ask respect for promises that have been made. For certain of them, expecially among the industrialized countries, the London directives constitute the extreme point beyond which any new restriction becomes counterproductive and therefore dangerous. For others, essentially importers, the directives already constitute dislocation of Article IV. The motivations of these various countries differ. They are often energetic, founded on the conviction that the development of nuclear energy is indispensable; sometimes they are theological (all discrimination is unacceptable), almost always they are political; those motivations combine or add up at will. The developing countries wave the flag of the needs of development and rebel against the "nuclear cartel" and the discrimination of which they consider themselves victims. They insist on written pledges and the duties of the military nuclear powers, they attack the vertical proliferation which is pursued without a slowdown and they loudly proclaim their rights to acquire the most advanced technologies. "The TNP, the entire TNP, and nothing but the TNP," could be their motto.

Germany and Japan constitute a category to one side. Advanced industrial countries which do not benefit from the status of military nuclear powers, they are for that reason more inclined to consider all discrimination as intolerable and to advance Article IV to defend their right to develop the technologies which are called sensitive, which additionally their level of economic and technical development fully justifies. They hope to hold to the London directives which they have signed, and alongside Italy, Belgium and other industrialized countries, they warn against a too-severe policy which can only, according to them, push a number of Third World countries to investigate means of achieving nuclear independence. An evolution is still perceptible. Germany, especially, which in 1976 and 1977 did not hesitate to present itself as the spokesman of those who stuck to Article IV, today recognizes that non-proliferation is the collective responsibility of the advanced industrial countries, and it has noticeably approached the middle road

that France has chosen to follow. France is, in fact, distinct from the two preceding tendencies. Sharing with the United States without reserve the objective of struggling against the proliferation of nuclear arms which it considers one of the most serious potential threats to the peace of the world, France bases its attitude on completely different premises in the three domains of policy, energy and technology. On the political level, the French Government shows that it is aware of the dangers of a too-rigorous and too-negative attitude with regard to the countries that import nuclear technology. Not a signatory of the TNP, France, facing increased dangers, joined the London Club at the very beginning and took an active part in drawing up the directives. The French Government still did not accept during the London debates the rule of the "Fullscope Safeguard" for reasons analogous to those which had earlier led it not to sign the Non-Proliferation Treaty. On the energy level, France forcefully puts forward the impossibility of solving the world energy problem without a very wide commitment to nuclear energy, not only in the industrialized countries but also in the developing countries, above all if they are energy poor; it therefore defends the liberty of each state to determine its energy options and the right of each country to benefit from electro-nuclear applications and from the services of the fuel cycle which would be necessary for it, as soon as it accepts submission to the international guarantees in effect. Finally, on the technical level, France expects to resort to retreatment and to supergenerators in order to fully exploit the potential energy of uranium up to its physical limits and to free itself as soon as possible from its dependence on foreign countries as far as its supplies are concerned.

This attitude has led the French Government to defend several options that are quite opposed to the policy followed by the United States at the same time that it works--a paradox--in the same direction. The French authorities, since the creation during the summer of 1976 of the Foreign Nuclear Policy Council, placed under the authority of the president of the republic, have progressively developed a doctrine of non-proliferation which was publicly formulated in two declarations by the Foreign Nuclear Policy Council in October then in December of 1976. In brief, those two declarations affirm the will of France to contribute to the continuation of peaceful uses of nuclear energy and to developing them on its own account, at the same time that it does not in any way favor the proliferation of nuclear weapons. France plans to reinforce the guarantees with which it surrounds its exports, by taking care to avoid trade competition favoring proliferation and by recommending long consultations with interested countries. Proclaiming its desire to "maintain mastery of its nuclear export policy," the French Government declares that it has decided to ensure the security of supplies for the reactors exported by French industry and the services of the fuel cycle which will be asked of it and to "answer the legitimate demands on technology". Those principles, proclaimed in October 1976, will be completed three months later by the decision, inspired by the Pakistani case, of "no longer authorizing (until new instructions are given) the signing of bilateral contracts for sales to Third World countries of industrial retreatment installations". The latest meetings of the Foreign Nuclear Policy Council permitted the completion and refinement of the various aspects of that doctrine without modifying the great principles stated in it in 1976.

It is easy to see at what point that open attitude toward foreign countries, accompanied by an active policy of nuclear exports, is opposed to American militancy or to the laissez-faire attitude of those who stick unconditionally to Article IV. Because, at the same time as that policy of an opening, France is trying to perfect non-proliferating technologies which could be more easily exported (enrichment process through chemical changes, development of a fuel with a small degree of enrichment for research reactors) and is resorting to multinational formulas to associate other partners in great industrial projects at the same time that it keeps the mastery over sensitive technology (an example is the EURODIF [European Diffusion Agency] enrichment plant, utilizing the gaseous diffusion process) and justifies, as Great Britain also does, its policy of giving retreatment services because of the necessity of avoiding the multiplication of small national installations which would be able to isolate plutonium.

It is enough to say that the publication of the London directives was more than a beginning; it was the end of an era. The common viewpoint of the suppliers as of 1977 has disappeared. The compromise which had made the TNP possible was now outmoded, the provisional consensus of the London Club was attacked by the believers in unilateralism: distrust and recriminations took over, attempts at out-bidding appeared and international nuclear relations entered a period of incoherence.

Era of Distrust

Perhaps it is necessary to consider as one of these historical accidents the fact that the debate on the risks of proliferation of nuclear weapons would be envenomed at the very moment when the growing worries created by the world energy situation were emphasizing the necessity of a large-scale recourse to that form of energy. The atmosphere of defiance or of rejection maintained around nuclear energy by minority ecologist activists, skeptics in progress who believe in zero growth, find a supplementary diet there. On the international level the North-South debate, in which there are already some apples of discord, finds in it an obvious theme for polarization. The central part played by the United States in these two debates gives to the miscalculations of the American non-proliferation policy a remarkable relief and significance; however, it will only be more difficult in coming years to construct a new international nuclear order.

American Policy Excesses, Limits

The policy of the Carter Administration was ambitious, and the means put at its service are considerable, as has been seen. It is by the measure of those ambitions and those means that the results attained must be measured. And it is not too early, nearly three years after the launching of the American crusade, to conclude that the approach that this policy expressed has failed.

At the same time, the assets are in no way negligible. Since the 1976 presidential campaign and the publication of the Ford Foundation Report, the United States has contributed to launching a vast effort of international reflection which has already borne many fruits. Whether within or on the margin of the INFCE [International Nuclear Fuel Cycle Evaluation], the imagination and the ingenuity of engineers and scientists have been put to the proof, and several formulas have been advanced or have seen the light of day which aimed at making proliferation more difficult starting with existing technologies. On the subject of retreatment, for example, the formulas of cotreatment have been studied attentively, while several new ideas were put forward such as the one on the CIVEX [expansion unknown] process, which permits not separating plutonium from the fission products; at the same time the perfection by the French AEC of the factory-tube process, which offers better guarantees against hijacking or terrorist action. The debates inside the INFCE have allowed an examination of the greater or smaller proliferating character of the diverse technologies and have probably inspired several qualms of conscience in that domain, at least that can be hoped. Several institutional formulas are being examined or studied for international storage of plutonium under the authority of the AIEA [expansion unknown], the international storage of irradiated fuel or guarantees of supply. Those are only examples, and the analysis would deserve to be refined by means of precise contributions from the current debate; but it cannot be denied that the American positions have brought a positive contribution to the effort of struggling against proliferation, by arousing a reflection which has not been limited to technical questions but which has also permitted a better grasp of the purely political input on the problem.

However, in regard to those assets, the liabilities are great. For lack of space, this article will present only a broad outline.

In the first place, it is obvious that the first victim of that policy will have been the development of energy in the United States itself, and that at the moment the world energy situation demands more than ever a massive effort from America to restrict its imports of petroleum and to diversify its sources of energy. The research and development programs on supergenerators are incoherent and paralyzed by the guerrilla war being waged by Congress against the Administration. The launching of new enrichment capacities has slowed down, thus depriving one of the stepping-stones of the Carter policy of its substance. Even before the Three Mile Island reactor accident, which has made this phenomenon more acute, the electrical generating companies were retreating before the attacks of activists and the meddling of the Administration, and they were ordering no reactors. The discredit cast by the Carter Administration on the plutonium economy is affecting all nuclear power.

In the second place, it is necessary to recognize that the United States is to a great degree isolated on the international debate on proliferation. If the objective is not disputed, the methods chosen, which tend to condemn certain technologies, are. The labors of the INFCE, which are drawing to a close, will not have failed to cast a light upon that isolation, making the massive character of American participation even more spectacular. The conclusions of

that broad study do not advocate any upset of the existing cycle, and they limit themselves to recommending various technical changes. The radical and innovating alternatives that the Americans were dreaming about at the beginning of the period will have been discarded very rapidly. The plutonium cycle has been cleared in the action that was brought against it, and the hopes that the most militant of its opponents placed in the action now find themselves disappointed.

That American isolation has its corollary in the inability of the United States to force a new look at the technological and energy options of their most important partners. Since President Carter proclaimed the moratorium on the development of retreatment and supergenerators in 1977, the common front made up of Germany, Japan, France, Great Britain and the Soviet Union has not ceased to proceed in the exactly opposite direction. France is resolutely pursuing the development of its retreatment capacity and, as the USSR is doing on its side, the construction of supergenerating reactors of great capacity. Japan is patiently pursuing its policy of mastering the complete fuel cycle and dreams of endowing itself with a national enrichment plant and with a second retreatment plant. Blocked by the particularly effective action of its opponents, Federal Germany has been obliged to delay the launching of its center at Gorleben, but it maintains the principle of constructing retreatment capacity. Franco-German cooperation in the area of supergenerators, in which Italy and the Benelux countries are associated, is developing. Labor England, itself, although it rarely makes choices that are clearly opposed to Washington, has inflicted a veritable rap on the knuckles to American policy by deciding in 1978 to launch the construction of new retreatment capacities at Windscale, at the end of a long public inquiry and has publicly rejected the American stand; Mrs Thatcher declares today that she is in favor of a prompt new beginning in rapid neutron reactors in Great Britain. Even the Canadian leaders declare that they do not exclude the possibility of resorting to retreatment in an indeterminate future. It is difficult at this point to find another example in which the United States has been cut off from the great industrial countries.

Under these conditions it is not astonishing that the United States should have run into lively resistance along the way and that many difficulties should have turned them against most of their important partners. The years of 1977 and 1978 especially probably made several points of friction possible, with Germany especially on the subject of Brazil, with Great Britain about Windscale, with Japan on putting the Tokai-Mura retreatment plant into service, and the granting of authorizations to transfer irradiated fuel to France and Great Britain for retreatment, with France on the retreatment policy, with the European Communities as a group on the renegotiation of the Euratom-United States Agreement. Above all in Germany and Japan, the fear of becoming the victims of a discrimination that they consider intolerable on the part of the military nuclear powers will have played on the most sensitive chords and touched the most primitive problems and the most profound fears. Finally, in the Third World, the raising of shields will have been general, and many developing countries on every occasion in international gatherings express their

perplexity, their worry and their lack of comprehension. Those reactions would run the risk of continuing and might even become stronger if Washington had to choose between applying certain dispositions of the Non-Proliferation Act in all of their rigor and putting under embargo as of March, 1980, or two years after its promulgation, the countries which refuse to submit to the demands of the law concerning either the Fullscope Safeguard or renegotiations. It is not difficult to imagine what new stiffenings of attitude such a measure might lead to.

But most importantly over and above the stalemate of a policy, it is still an entire approach to the problem of proliferation which is in question. What has been thus rejected is a choice in favor of an attitude of a regulatory nature consisting of making unilateral edicts to be obeyed by the rest of the world, chiefly when such rules rest on a technical-political analysis which is far from unanimous and on disputed technological choices. The lesson of experience appears clearly: a viable regime of non-proliferation should include a minimum of agreement among all interested parties, importers and exporters, not only on the objectives but on the means. The rejection of the American approach will also have been that much clearer because out of the policy defined in April, 1977, only the gamut of imposed restrictions, of refusing sales and the threat of an embargo have been put into practice, the envisaged incentive measures (guaranteed supply, etc.) have not received the slightest impetus toward execution. Many voices have been raised as well in the United States itself to deploring and underlining the blow this fact has dealt to the credibility of American policy.

This state of affairs is all the more deplorable since the objective of non-proliferation is fully shared by all the great industrial countries and since the different means put in service of a common objective may perhaps have served to advance proliferation, instead of thwarting it. Proliferation, as long as disunity reigns, is making progress. Pakistan, doubting that it can endow itself with a retreatment plant, would have undertaken to build itself a clandestine centrifuge installation which would allow it to manufacture highly enriched uranium without any control. Brazil is not giving up in any way its installations for enrichment retreatment, which remain under control as the German contract promises. Argentina is continuing along the heavy water route which earlier was so successful in India. India itself is still refusing to accept "Fullscope Safeguard" and is looking for refueling solutions among American and Canadian suppliers. South Africa finally refuses to put its Velindaba enrichment installation under the control of the AIEA, temporizes, and resists all pressures. Across the entire front, the defeat of American policy is stamped almost immediately behind a general defeat for non-proliferation, which is a stalemate for the international community as a whole. The interests of peace can only be compromised by this. Technical blocks and political pressure are revealed to be ineffective by themselves. And actual conditions also teach that considerations of general foreign policy may trade profitably on the interests of non-proliferation. By beginning anew its delivery of weapons to Pakistan the day following the Soviet invasion of

Afghanistan, the United States finds itself constrained to practically renounce an essential means of applying believable pressure on Pakistan so that it will renounce its nuclear effort. The episode thus illustrates the limits of a policy of non-proliferation.

World-Wide Nuclear Disorder

The extent of that stalemate is measured by the problems it presents. On the industrial level outside the United States there exists in the world a general will to develop nuclear industry which supposes a concomitant development of the fuel cycle and will no doubt lead to a progressive introduction of super-generators in the great nuclear countries between now and the year 2000. Now the present situation makes the greatest uncertainty weigh on all stages of the cycle.

For many countries beginning a nuclear program, a supply of enriched uranium is a priority concern. Because it has tried to make a vehicle for political pressure out of its sales of enriched uranium, the United States, formerly the holder of a quasi-monopoly in that domain, is no longer considered as a dependable supplier. That lack of confidence in the American supplier can only encourage certain countries to develop a national capacity for enriching. Can those ambitions be chanelled on the one hand toward multinational forms rather than national forms, and on the other hand toward the least proliferating technologies? But how can such a country be discouraged from choosing the road of centrifuging or tomorrow isotopic separation by lasers solely in the name of the objective of non-proliferation, if in addition it has bent under required political pressure, and how can one country or another, equipped with a large electro-nuclear program, be stopped from building itself a national enrichment capacity if it has developed its own technology for itself (the cases of Germany and Japan)? If multinational formulae are to be retained, on what criteria is their localization to be based?

The future of retreatment arouses the same kind of questions. If the electro-nuclear programs resume their development, the creation of new capacities will soon be shown to be necessary. Must multinational formulae be sought there too? If the answer is yes, how at the same time can dissemination of the "know how" be avoided? And how can retreatment be assured for countries broadly depending on nuclear power, Germany, Japan, or Belgium today, but also as of tomorrow South Korea, for example? As of now, the United States has not been able to avoid the appearance of an international market in retreatment services in France and in Great Britain. But because of the size of their past supplies of enriched uranium, it has at its disposition the escape of the famous MB 10's (authorizations to transfer fuel of American origin from one country to another). What use will the American Administration make of the MB 10's? Will it continue to distill them, drop by drop, as it has done during recent months, thus letting an encumbering mortgage weigh over the industrialists and governments concerned? Will it try to favor by this bias some formulas for storing irradiated fuel to which it now gives preference, to the detriment of retreatment, but which the other great industrialized

countries do not want to envisage except as a complement--not a substitute--to retreatment? Question marks could be multiplied in this way. They affect the rate at which electro-nuclear power can be developed in the world, the availability of fuel in forthcoming years, the date of introducing super-generators into the electrical networks.

These uncertainties are all the more worrying since they are floating in a considerably heavier political atmosphere, made worse by the "nuclear revisionism" which has developed since 1974-1975. The reopening of signed contracts, the attempts to renegotiate agreements that are in effect, the threats of an embargo or the demands of prior consent have introduced a veritable escalation of distrust in international relations and have made all programming very risky. New political divisions are being added to traditional divisions. Countries that do not possess nuclear weapons suspect the military nuclear powers of seeking to discriminate against them; the South harbors the same suspicion with regard to the North; the United States distrusts the rest of the industrialized world, and reciprocally; customers are no longer confident in their suppliers, and the latter tend to classify their customers in categories established according to the number of mental reservations that they have in regard to them.

Neither the world political equilibrium nor the solution of energy problems have anything to gain from the continuation of such a climate. The desire to recover from this ruinous situation is almost universal. A return to stability and to confidence justifies the efforts undertaken on one side or the other in the hope of finding a new consensus.

Seeking New Consensus

The period of the INFCE will have played a useful role, it has been claimed. Even beyond the confrontation of the ideas and of the formulas to which practice has given place, practice will have offered the occasion for a pause and permitted deeper thoughts. Some evolutions are going on. In Washington, a new team of pragmatists and professional negotiators is trying to adjust the American effort to the industrial realities of the world. Germany and Japan, which from profound divergences in points of view were only a little while ago opposing the United States, are now devoted to smoothing off some rough spots in the presentation of their standpoints and they are preparing to try a rapprochement to which they are inviting the United States. France and Great Britain, pioneers in the plutonium economy and because of that fact invested with a particular degree of responsibility, have for their part dedicated themselves to investigating concrete formulae capable of reconciling the worries of non-proliferation with the resolute development of technologies of retreatment and rapid reactors.

Unformulated, even sometimes cloudy, the bases of what could be new consensus are beginning to appear among the great industrialized countries. The slow evolution of the positions of the American Administration permits thinking that the United States is about to admit that retreatment and the introduction

of supergenerators can be freely developed in the industrialized, advanced countries, on the condition of course that such developments be accompanied by the necessary precautions (specifically concerning physical protection of the materials and of the installations). Although American leaders still declare publicly that they do not advocate the development of supergenerators except to the degree necessary for "R., D. and D." (research, development and demonstration), it is permitted to think that the movement will engender its own dynamics and that they will come down on the side of commercial development of supergenerators before the 21st century. As for retreatment, they admit that it is being developed to the necessary degree for providing supergenerator programs with plutonium. In fact, they believe it necessary to avoid that any excess plutonium be created which could be utilized as the fuel in classic thermal reactors, thus generalizing the use of plutonium without any limit at all. Recourse to stockpiling irradiated fuel thus appears, from this point of view, more like a complement than like an alternative to retreatment and, if that is really the case, perhaps it will arouse less negative reactions than those shown up to the present by the partners of the United States.

This modus vivendi whose features are beginning to show is still quite incomplete. In the first place, there is still the problem of perfecting formulae which will permit minimizing the risks inherent to the plutonium economy and to surround that economy with the necessary guarantees: measures of physical protection for the transport and storage of plutonium, the definition of an internationally accepted corpus of rules regulating the return of plutonium to the customer countries after retreatment in a third country, a charter for the internationsl storage of plutonium under the control of the AIEA, whose principle is already very widely accepted. Some groups of experts are already working on some of these points. This effort at a formulation must be intensified in coming months. In a second stage, which promises to be of great importance, there will still be the task of obtaining a definition for that international plutonium regime which will include as a counterpart the realization of constraints imposed unilaterally by the producers of natural and enriched uranium. It would be a good idea then that at the proper moment a gentleman's agreement permit establishing an automatic delivery system for American MB 10's and the abolition of the various demands of prior consent for the retreatment of plutonium which the United States, Canada and Australia want to impose. The return to a certain consensus necessarily proceeds through an understanding on those fundamental points, whose solution conditions in its turn the industrial development of retreatment and of rapid reactors.

It is enough to claim that even if the conclusion of the INFCE labors creates a favorable climate, this search for a worldwide compromise runs the danger of finding difficult obstacles. It will be necessary specifically to modify laws which are currently in effect, in whose front rank we find the American Nuclear Non-Proliferation Act. Is it necessary to emphasize that keeping the American law in effect, even taking into account many clauses which confer on the Executive a large margin for interpretation, seems hardly compatible with the compromise which has just been outlined? The enterprise will not be easy.

In Congress the administration will have to deal with the many activists of non-proliferation. The Presidential campaign which is beginning in the United States is naturally full of all kinds of competitive bidding. It can be feared that the latter will become unleashed throughout the world if, as many signs allow one to think, an emulation of India in the months which will be necessary to achieve that goal should lead to the decision to test a bomb.

The history of nuclear international relations during recent years teaches that understanding among the large nuclear countries is not enough to ensure a harmonious conciliation between the objective of non-proliferation and the development of nuclear energy. Over and above the political problems which have already been set forth, the energy needs of the Third World fully justify access to nuclear technologies by the least progressive of those countries. That the concern for non-proliferation requires limiting dissemination of sensitive technologies to the maximum is one thing; the limits of the policy called the "suppliers' policy," and the still clearer thwarting of the unilateral approach show that that effort cannot have any chance of success unless it receives the support of the developing countries. If that general consensus cannot be reestablished the drawing up of a consensus limited only to the industrialized countries would not be sufficient to permit turning to a stable and balanced nuclear order, and would run the risk of leading to new North-South clashes.

According to the evidence, that problem is still intact. It cannot be seen how the developing countries could rally around a policy which aimed at forbidding them the acquisition of certain materials or of certain articles of equipment, or that would close the door on transfers of technology. There is no moral or political justification for discrimination founded on a country's degree of development. The only criterion which can permit delaying access to sensitive nuclear technology is a criterion of time: it is, in fact, absurd and at the same time unjustifiable that technologies of that degree of sophistication should be introduced into a given country before its level of economic and technical development are ready for it.

Only this chronological criterion can permit reconciling reason with the logic of the philosophy engendered by Article IV of the TNP--the only text now commonly accepted. The principle of non-discrimination is justified there and the demands of safety, economic profitability and international security can be found thus preserved. It is the job of the great nuclear countries to find a means of formulating it in terms acceptable to the developing countries and to prevail upon them to subscribe to it. This is not an enterprise of desperation: if this effort to formulate principles of introduction into the nuclear question and the developing economies can be accompanied by concrete measures translating that opening in a tangible way: technical assistance, especially in the domains of safety, the training of personnel, the perfection of multinational formulas permitting the controlled and secure management of key installations in the fuel cycle (enrichment, retreatment) agreement to limit the number of those installations to a few centers of large capacity and the eventual setting up of veritable

guaranties of supply of fuel which will shelter countries that acquire reactors from pressure of from changes in the suppliers' policies. Accompanied by the indispensable controls of the AIEA and by the setting in motion as soon as possible of the less proliferating technologies which are now being studied (especially the generalization of slightly enriched fuels for research reactors), only a system of this kind can respond with the flexibility required by the legitimate aspirations of the Third World.

The year 1980 presents itself as a watershed year and it can offer to the international community a chance of finding once again the path of moderation and good sense in this domain. The month of February saw the closing of the INFCE's labors which, at the same time that they favored maturity, deferred attempts to formulate a consensus. In the month of August one of the periodic conferences to revise the TNP is to be held, which risks becoming a North-South clash if perspectives are not designed between now and then to reestablish a certain level of agreement. There are only a few months left for the nuclear countries to restore among themselves the confidence and the unity of outlook without which they have no chance of being able to rally the Third World around their constructive open formulas.

In other words, more than ever the chances for non-proliferation will be chiefly the business of politics and of diplomacy. The idea to make them depend on locked technical doors which would permit the nuclear powers to preserve their monopoly by controlling the dissemination of technologies has long hung fire. The tumults of these last years will at least have had the merit of making it evident that the problem is of a political nature and does not permit, on the technical level, more than partial and insufficient answers; it can find no solution except a political one.

And no attempt at solution can deserve that qualification if it does not proceed from a more realistic appreciation, not only of the relationships of force, political and industrial at the same time, but also of respective risks which the specter of proliferation and the specter of energy lack put in the way of peace and a world equilibrium.

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ITALY

CNEN STUDY ON POTENTIAL NUCLEAR PLANT SITES

Rome IL CORRIERE in Italian 25 Feb 80 p 1

[Article by Gianfranco Ballardin: "The 'Model' Nuclear Plant Loves Water but Not Earthquakes"]

[Text] Rome--Representatives of the Italian regions will meet Thursday at the Ministry for Budget, under the auspices of Andreatta, to decide where the next nuclear reactors will be built. The debate, which will certainly be very lively, will focus on the locations map put out by CNEN [National Nuclear Energy Commission] in an attempt to locate areas best suited to house 2,000 megawatt nuclear reactors (2 and 1/2 times more powerful than the one at Caorso which, after 2 years of tests, is just now beginning to function). The "sites map" (which might be compared to a "Michelin Guide to the atom," points out about 40 areas which, following initial tests, appear capable of accommodating a reactor (or a group of reactors). The choice is based on three main criteria:

1) The avoidance of heavily populated areas, for motives of prudence. A reactor cannot be built less than 10 kilometers from centers with several tens of thousands of inhabitants and not less than 20 kilometers having several hundred thousand inhabitants.

2) The avoidance of zones having high seismic frequency.

3) The insuring of the availability of water to cool the reactors.

After years of research, CNEN has selected about 40 sites which, after further detailed studies, will be reduced in number. Here in a nutshell are the main points of the CNEN study, using the map published on page one. [map at end of article]

Beginning from above, to the left, we find an area located in Piedmont, on the Po River, near Trino Vercellese, which lies between the two rivers Po and Dora Baltea. Immediately after that, we encounter an area between Piedmont (in the Province of Alessandria) and Lombardy (Pavia). Further on, one meets a series of large areas, astride the Po, situated for the most part in Lombardy (in the provinces of Mantova and Cremona), with

extensions in Emilia (Piacenza) and in Veneto (Verona). All these areas, which theoretically could host an enormous conglomeration of reactors, do have a drawback: the presence of a large number of small inhabited centers which make the area too densely populated. Another promising area which has the same handicap is that of the Padano delta, at the mouth of the Po River, which forms a kind of triangle between Ferrara Comacchio and Chioggia.

On the Adriatic side, starting from the top, we meet a vast area, located between Friuli and Venezia Giulia, straddling the mouth of the Tagliamento, which extends toward the east, to Grado. Immediately after that, there is an area at the mouth of the Piave, between Caorle and the Lido di Jesolo. Following the Padano delta, we find another useful area located at the mouth of the Reno, in the area of Ravenna. Following a leap downwards, one encounters a strip between Termoli (Molise) and Lake Lesina, in Puglia. Another promising area is located south of Manfredonia, near Lake Salso.

Still in Puglia, we have two other useful areas, between Brindisi and Otranto. Another site of interest is located between Gallipoli and Santa Maria di Leuca, on the Jonio Sea. Two other good areas are between Taranto and Gallipoli, again, on the Jonio Sea. Another reactor could be built at Marina di Ginosa, again, on the Jonio Sea. Now we find ourselves in Basilicata: here the CNEN has outlined an area that occupies the whole Metapontino coastal strip.

In Calabria, the CNEN experts have pointed to five areas of possible use on the Jonio Sea. Two are on the Crati River, near Sibari (but there one encounters archeological constraints). The third is near Punta Fiumenica and the fourth is between Crotone and Ciro Marina, while the fifth is found between the Lido of Catanzaro and Capo Rizzuto.

Following the Tyrrhenian coastline, the first area of promise is found south of Salerno, at the mouth of the Sele River. Another is located between Campania and Lazio, at the mouth of the Garigliano River. Right after that, CNEN points to the zone south of Sabaudia. Going further up the coastline, CNEN earmarks the whole coastline from Lazio to Tuscany, between Montalto di Castro and Lake Burano. Immediately after that, we find two small areas, one located between Marina di Grosseto and the mouth of the Ombrone River and the other near Orbetello. Another suitable location is between Piombino and Follonica. Then, there is the whole island of Pianosa (but what will the WWF and Italia Nostra [Our Italy] have to say about that ?). Finally still in Tuscany, CNEN indicated an area located between San Vincenzo and Castagneto Carducci, in the Maremma.

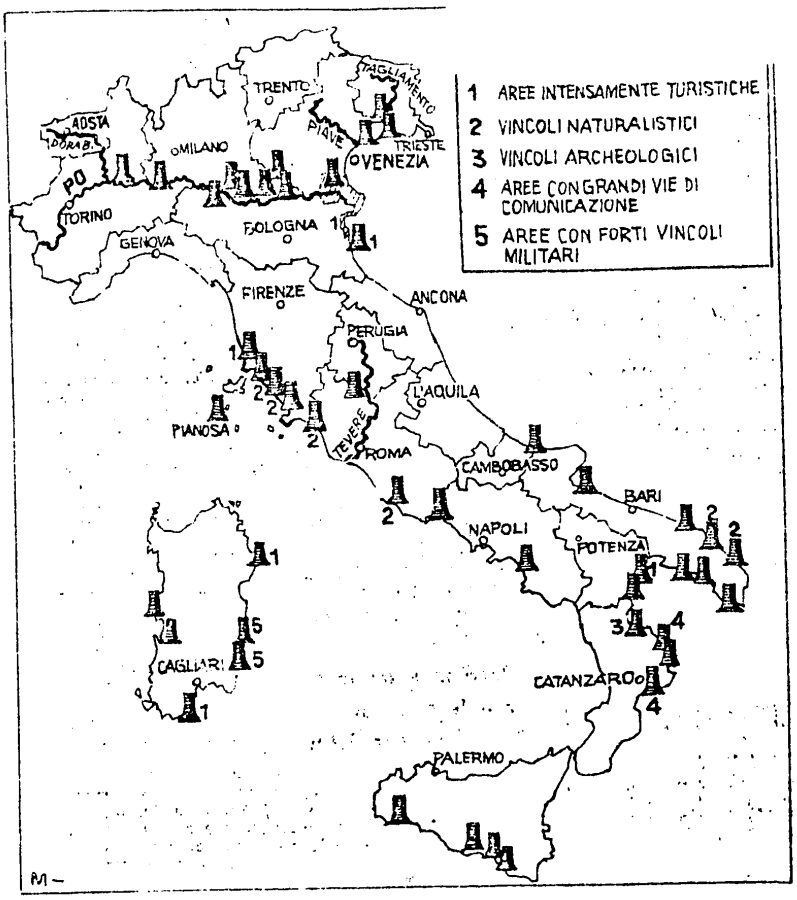
And now in Sardinia. A reactor could be located between Orosei and Siniscola. Between Capo Carbonara and Orosei there are another two possible sites. Further south, a favorable site may be that between Capo di Pula

and Capo Spartiavento. Two more zones are located south of the Gulf of Oristano and at Capo Mannu.

Finally, Sicily. Along the southern coast, CNEN pointed out three sites, between Marina di Ragusa and Licata. A fourth area is located south of Sciacca. Now a word about the regions.

According to the latest ENEL [National Electric Power Agency] programs, the next 2,000-megawatt nuclear reactors should be built in Lombardy, Piedmont, Friuli-Venezia-Giulia, Puglia and Molise. But next Thursday at the meeting with Andreatta, at least three regions will probably cast a negative vote. Lombardy appears to waver, and has not yet made up its mind.

The one region which would welcome ENEL's megareactor is Puglia, even though the first site has yet to be selected. Radicals from Puglia have already organized a wave of protests. In the meantime, Alfredo Pallotti, the Italian Republican Party (PRI) mayor of Montalto di Castro has published a decree ordering ENEL to immediately stop construction activity (begun about a year ago) at the nuclear reactor site at Montalto di Castro, in upper Lazio. The reason: following the accident at Harrisburg, the safety of the population "is not at all guaranteed." Finally, even Sicily has begun to distance itself from the ENEL "card."



Areas Suitable for the Construction of Nuclear Plants

Key: 1. Areas with heavy tourism
2. Natural constraints
3. Archeological constraints
4. Areas with large communication roads
5. Areas with significant military restraints

The above map indicates zones where future nuclear plants could be built in Italy. It is the synthesis of a CNEN (National Nuclear Energy Committee) study, found on page 2 of an article by Gianfranco Ballardin. The numbers point to negative factors affecting an eventual choice (see box above right).

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ITALY

FINMECCANICA-FIAT ACCORD ON NUCLEAR INDUSTRY LEADERSHIP

Rome ATOMO E INDUSTRIA in English 1 Mar 80 pp 24, 23

[Text]

With the joint Finmeccanica-Fiat communiqué issued after the signature of the industrial agreement which took place between the two companies in Rome on 7 February — a communiqué which we are publishing in its entirety — the restructuring of the Italian reactor industry has concluded. The agreement between the two companies has led Finmeccanica, through the associated Ansaldo Società Generale Elettromeccanica of Genoa, to assume full leadership in the area of nuclear power plants. The terms of the agreement are exactly the ones published by this paper before the signature and the announcement, in its 1 February 1980 issue.

The information we gave can be completed as follows: at present, the two companies, hitherto operating on a joint basis, which constitute the Italian structure of Westinghouse PWRs, that is SIGEN and SOPREN, have passed completely under the control of Ansaldo after the deliberations of their Stockholders' Meetings. In SIGEN, with Ansaldo in large majority, participates also Fiat TTG, while in SOPREN, with Ansaldo again in large majority, are Westinghouse (keeping its 15 per cent), FIAT TTG and SIGEN itself.

The declarations and comments that have followed the announcement are worth recording, especially those of the President of Enel, Ing. Francesco Corbellini, the Chief of the Energy Sector of Finmeccanica and President of the Ansaldo Group (which now comprises all the plant engineering companies: AMN, NIRA, SIGEN and SOPREN and all the manufacturing companies of Finmeccanica in this field: Ansaldo SGE, Breda Termomeccanica, Italtrafo, Simep and Termosud, as well as 50% of the holdings, in the Gruppo Industrie Elettromeccaniche Impianti all'Estero — GIE, and the whole of CESEN — Centro Studi Energie Renzo Tasselli), Ing. Daniele Luigi Milvio, and the Fiat Director of the Energy Sector and President of Fiat TTG, Ing. Carlo Eugenio Rossi.

At the inauguration of the Internazionale Elettronica ed Elettrotecnica (INTEL 80) in Milan on 9 February, Ing. Corbellini declared: *« The Fiat-Finmeccanica agreement on the structure of the nuclear power industry is an important fact which enables us to define a strategy and finalize programs not influenced by industrial interests. The agreement between the two industrial groups amounts to concord among those who will construct materially the nuclear power plants, a concord which, conditions being equal, will facilitate the plans that will be approved by the Government and by Parliament in this connection. Furthermore, it corresponds to a rationalization of industrial capacities, the results of which will certainly be superior to competition which, in the specific field, would have led to a dissipation of resources. I hope that Fiat will continue to remain in the industrial organization, the majority of the shares of which is now controlled by Finmeccanica ».*

The Joint Finmeccanica-Fiat Communiqué on the Agreement

« On 7 February Fiat and Finmeccanica (IRI Group) signed in Rome an industrial agreement which regulates their mutual relations in the areas of nuclear power stations and aeronautical engines, for the purposes of a more rational and effective use of resources.

On the basis of this agreement, Finmeccanica, through its controlled company Ansaldo, assumes the role of leader in the area of nuclear power stations, acquiring the majority of shares in the SIGEN and SOPREN companies, which are in possession of Westinghouse technology for light water pressurized reactors, Fiat TTG keeping the role of supplier of qualified nuclear components.

Fiat, through its controlled company Fiat Aviazione, assumes the role of leader in the area of military aeronautical engines, Alfa Romeo keeping its present activities as supplier and constructor, within a consortial structure which will be set up by the parties for the designing and marketing of these engines.

The agreement was signed by Cesare Romiti, Managing Director of Fiat, and by Franco Viezzoli, President and Managing Director of Finmeccanica, who stressed the importance of the rationalization thus carried out in two sectors of high technological content, which will be able to facilitate the implementation of Government programs in these sectors to the evident benefit of the development of the whole Italian industry concerned ».

Answering a question of journalists, President Corbellini specified that: *« Obviously this agreement does not imply, and absolutely cannot imply, delegations or transfers to the new industrial organization of the attributions and tasks of Enel as ordering Agency and main architect of the nuclear power stations ».*

On his side, Ing. Milvio, after stressing that *« the agreement represents an important fact in national industrial policy in this sector »*, added: *« With it, in fact, the Ansaldo Group, the leader of the Energy Sector of Finmeccanica, assumes complete leadership in the field of nuclear power stations, acquiring control on the technological and commercial plane also of the pressurized water reactor type (PWR), which is added to control, which has already existed for some time, of the other two types prevalent today in the world: the boiling light water type (BWR) and the heavy water type (CANDU) ».*

« Control of these reactor types — Milvio went on — *has made possible for enterprises of the Ansaldo Group, which now includes also the plant engineering companies AMN and NIRA, achievements such as: the 850 MWe BWR power station at Caorso; the beginning of the work for the 2000 MWe BWR power station at Montalto di Castro; the construction, now going on, of the 40 MWe heavy water prototype power station CIRENE; participation in international competitions in Turkey and Iraq, offering both BWR and PWR power stations of 600 MWe. At the same time, through NIRA, the Italian industry is participating, with a quota of supplies over 35%, in the construction of the first demonstration power station of great capacity of the fast reactor type, the 1200 MWe Super-Phénix, at Creys-Malville, in France on the Rhone, in collaboration with the French and German industry ».*

« The agreement with Fiat — Milvio concluded — *makes it possible to complete the unification of the enterprise structures of the whole Italian industry which, with the leadersip of the Ansaldo Group of Finmeccanica, puts itself in a position to use more effectively all the competences and resources at the disposal of Firms in the sector, both private and state-controlled: this fact will be able to facilitate the implementation of the projecs for the construction of energy plants in our country and therefore, in its turn, bring about a greater development of industrial capacities ».*

Questioned by journalists, still at INTEL, Milan, Ing. Milvio commented: *« I believe that this agreement acquires and confirms the validity of some proposals that have been put forward in Italy for years and which, certainly, are not very original, since they are based on models carried out by other countries such as France, Federal German and the United Kingdom ».* The President of the Ansaldo Group added that it is not a question of a *« monotype »* policy, that is, of nuclear power station programs with the same type of reactor, but rather of *« an integrated and unified industrial national structure in the nuclear power field, endowed, as regards the reactor types, with a certain flexibility ».* Questioned about the choice of reactor types, Milvio added: *« It is not possible to say yet: the choice will have to be made, let us hope soon, by politicians on the basis of political considerations and conditions as well as the opinions expressed by the ordering. Enel, by the safety organ, CNEN, and by industry. The agreement now removes that opposition, which, moreover, has always been reduced, between industrial groups holding licenses for different reactor types, so that now the choice to be made by politicians is completely uninfluenced by possible industry contrasts ».*

To the question if it will be possible to arrive in Italy at something similar to Framatome, in which all French industrial resources are concentrated for the nuclear island, Milvio replied: *« Certainly, if it is considered that the organization created by the Fiat-Finmeccanica agreement is open to all the other industries in the sector, such as Tosi, Belleli and others »*, recalling that, precisely, Fiat, Tosi and Belleli, with AGIP Nucleare, participate in NIRA with Finmeccanica.

To the question whether the new unified industrial organization may not bring back a return to the turn-key ordering system, greatly criticized, among other things, at the recent National Conference at Venice, Milvio replied: *« I exclude it. There has often been talk of the turn-key system wrongly. Even at Montalto di Castro the rigidity and complexity of contractual conditions and safety regulations are such that both the commissiong agency and the safety organ are certainly not left outside. On the contrary... It is right, moreover, that the latter should follow carefully the process of construction, as they have done and do. On its side industry, when required to adopt the turn-key system for exportation purposes, aims at showing, with what it is doing in Italy, its own qualification and capacity to operate with this system ».*

The last question addressed to Milvio concerned his intervention at the Venice Conference, in the course of which he wase alleged to have said that to start the implementation of a new reactor type it was necessary, from the industrial standpoint, to have a large number of plants. *« I said* — Milvio clarified — *that a substantial program was necessary. This does not mean a given number of power stations to be constructed in Italy. With the agreement of which we are speaking, the energy market shifts from the national plane to the European one. It is possible, according to the political choice*

we are waiting for, that the new Italian industrial organization may become a partner or competitor of the French Framatome or the German Kraftwerk Union or of the industrial organization of another country. For example, if there were suitable connections with the program of 50 and more French power stations, theoretically it would be sufficient to construct only one plant of the same type in Italy to be able to claim experience and a substantial program».

Finally, Ing. Rossi, commenting on the agreement, declared that: *«The critical situation in the field of energy supply for our country, which emerged also on the occasion of the recent Conference in Venice on the safety of nuclear power plants, has confirmed the necessity to end the delays that have held up the implementation of programs already approved by Parliament». «In this framework* — Rossi added — *the industrial agreement, signed between Fiat and Finmeccanica, envisages the possibility of a rational and effective use of resources, which will be able to facilitate the implementation of government programs, not only in the energy area, but also in that of aeronautical engines».* Ing. Rossi continued as follows: *«Repeating a statement that has already been made several times, a rapid implementation of the nuclear power program means in the first place ensuring the productive sector supplies of one of the preeminent factors, indispensable for its activity, electric power; it also means ensuring industry in the thermoelectrimechanical and nuclear sector a vast field of potential work».*

OSO: 5100

UNITED KINGDOM

FRENCH NUCLEAR SALES SEEN 'FUELING CONFLICT' IN MIDEAST

LD241355 London THE SUNDAY TIMES in English 23 Mar 80 p 16 LD

[Editorial: "France's Nuclear Perfidy"]

[Text] France is fueling conflict in the Middle East by raising it to the nuclear level. It is supplying Iraq with a nuclear reactor and a quantity of highly enriched uranium. The arrival of the reactor, due to be dispatched a year ago, was delayed by sabotage within France itself but it is expected to become active some time next year. While designed chiefly for civil purposes the reactor will be capable of producing weapons grade material. Iraq is also buying a reactor and lightly enriched uranium from Brazil and has a long standing contract with Italy for a nuclear research laboratory and technicians.

The French argue that it is no longer right to refuse to provide nuclear know-how and material for civil installations even if these can be turned to secondary military uses. This is specious. It is impossible to resist the conclusion that these French and other deals are done for money. They are in any case deplorably dangerous. It may well be that Iraq would never launch a nuclear bomb against Israel because Israel is all too ready to retaliate in kind. But the Middle East is a patchwork of conflicts and most of the parties to them do not possess nuclear weapons. The introduction of these weapons sharpens the inequalities in the area and so encourages war.

Iraq is not an isolated case. France has a record of previous convictions. It has used its influence in Africa to organise the despatch of uranium from Niger, Gabon and Namibia to Libya and Pakistan.

It has been helping Pakistan with the design of nuclear reactors and supplying most of the parts. It does these things with a bad conscience. The traffic in African uranium has been wrapped in secrecy and the supply of equipment to Pakistan was slowed down after a hostile diplomatic barrage from France's allies. Whether France can be induced to annul or modify its Iraqi deal is perhaps doubtful, since Iraq has far more than Pakistan to offer in return--certainly in oil, possibly in political leverage in the Middle East. Nevertheless President Giscard should be left in no doubt about his allies' alarm and revulsion over his nuclear diplomacy.

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